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Clean Copy of Claims

The following pages are a clean copy of the Claims filed in response to the First Office Action and are resubmitted here word-for-word in accordance with the instructions of the Second Office Action. There is no new matter contained herein.

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I Claim:

CLAIM 1. (Amended)

In a bandsaw machine with a double-edged saw-toothed bandsaw blade with uniformly consistent tooth spacing; a blade guide device, usually used in pairs to bracket a work piece, comprising:

a blade guide bracket assembly with adjustable means to support two radially opposed thrust rollers in a plane parallel to the plane of the workpiece kerf;

said blade guide bracket assembly with adjustable means to support two radially opposed pinch rollers in a plane perpendicular to the plane of the workpiece kerf;

said blade guide bracket assembly having adjustable means to attach same to a bandsaw.

CLAIM 2. (Amended)

The blade guide assemblies of Claim 1 wherein said roller assemblies are arranged around said saw-toothed blade in pairs which are functionally designated as:

pinch roller assemblies which serve to prevent sideways deflection and twisting of the blade by radially opposing each other on a plane perpendicular to the plane of said blade's kerf and separated by the flat surfaced thickness of said blade; and,

thrust roller assemblies which serve to prevent forward or backward deflection of said blade by radially opposing each other on a plane parallel to the plane of said blade's kerf and separated by the tooth-edged width of said blade.

CLAIM 3. (Amended)

The blade guide thrust roller assemblies of Claim 2 comprising:

said thrust rollers wherein the blade's teeth are held apart from said roller while the blade's gullets are supported against said rollers by a circumferentially arrayed series of cogs corresponding to said gullets;

said thrust rollers wherein said cogs and indentations are impressed into an elastic substance by compression as the teeth of said saw blade are driven under increasing pressure through said rollers; and,

said thrust rollers affixed to radial bearings and rotatably mounted to said blade guide bracket.

CLAIM 4. (Amended)

The thrust roller assemblies of Claim 3 wherein:

the elastomer thickness of said roller is greater than the depth of said saw blade's gullets and sufficient to prevent the tips of said saw teeth from touching the circumference of said bearing within; and,

said roller's only substantial point of contact with the blade is at the blade's gullets.

CLAIM 5. (Amended)

The thrust roller assemblies of Claim 3 wherein said thrust rollers have indentations arrayed circumferentially along the centerline of said rollers corresponding in size and shape to the teeth of said blade; such that as said driven blade travels tangentially along said thrust rollers' circumferences, said rollers mesh synchronously with said saw teeth and are thus driven to rotate in unison with the moving saw teeth.

CLAIM 6. (Amended)

The thrust roller assembly of Claim 3 wherein said thrust roller is prefabricated as a gear with cogs corresponding to the gullets of a saw blade of matching tooth design.

CLAIM 7. (Amended)

A device to add reverse and forward thrust support to a single-edged blade guide assembly of prior art comprising:

- said thrust roller assembly of Claim 3 to counter thrust against the toothed edge;

- a circumferentially smooth prior art thrust support roller to counter thrust against the smooth trailing edge of a single-edged bandsaw blade;

- a bracket to adjustably support said thrust roller assembly of Claim 3 parallel to the plane of the cut or kerf; and,

- a means to attach said bracket to said prior art blade guide assembly.

CLAIM 8. (Amended)

A bandsaw with opposing thrust support rollers, including:

- a double-edged bandsaw blade with saw teeth;

- said bandsaw blade having consistently uniform tooth shape;

- a blade guide with thrust support to both forward and rearward directions;

- said blade guide having thrust support rollers with cogs circumferentially arrayed to correspond tangentially with the gullets of said double-edged bandsaw blade;

- said blade guide having one of its thrust support rollers smooth and round to accommodate a single-edged blade;

- said blade guides having means to prevent side-to-side deflection of said blade.